

## **REMARKS**

Applicant appreciates the interview conducted with the Examiner around November 25, 2008. In the interview, Applicant discussed the outstanding §112 written description, enablement, and indefiniteness rejections. With respect to the written description and enablement rejections, Applicant pointed out support for these in the Specification to overcome the rejections, as agreed to with the Examiner. With respect to the indefiniteness rejection, Applicant amended claim 1 as discussed herein to overcome this rejection.

In the interview, Applicant further discussed the §103(a) rejections, although no agreement was reached. In response to the interview, Applicant amended independent claim 1 to further clarify a feature of the present invention. Applicant appreciates the Examiner's time and courtesy extended to conduct the interview.

Claims 1, 4-6 and 19-21 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. More specifically, the Examiner asserts that Applicant does not have possession of the crystal grains contacting each other at grain boundaries. Applicant respectfully disagrees. Support for this feature can be found in Applicant's Specification on page 8, lines 4-7, page 12, last line to page 13, lines 1-2, and FIGs. 2 and 11. As shown in FIG. 11, for example, the fine crystal grains 29 contact each other at grain boundaries 31. For this reason, withdrawal of the §112, first paragraph, written description rejection is respectfully requested.

Claims 1, 4-6 and 19-21 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. In the interview, the Examiner clarified that the enablement rejection is because it is not clear that the seed crystal layer contains crystal grains and covers the surface of the substrate on the metallic islands. Applicant respectfully traverses this rejection because page 7, third paragraph of the present Application teaches that a seed crystal layer 28 is formed to extend over the surface of the substrate 21. FIG. 2 further illustrates that the seed crystal layer 28 is formed over the nucleation sites 27 and substrate 21. Accordingly, since these features are shown in the drawings and described in the Specification, withdrawal of the §112, first paragraph rejection of claims 1, 4-6 and 19-21 is respectfully requested.

Claims 1, 4-6 and 19-21 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner asserts that the limitation “the adjacent metallic islands” in line 3 of claim 1 lacks sufficient antecedent basis. In response, Applicant amended claim 1 to delete “the” in line 3 and provide proper antecedent basis for the “adjacent metallic islands”. For this reason, withdrawal of the §112, second paragraph rejection of claims 1, 4-6 and 19-21 is respectfully requested.

Claims 1, 4-6 and 19-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen (U.S. Patent No. 5,846,648) in view of Matsunuma (U.S. Patent No. 6,602,621). In response, Applicant amended independent claim 1 to clarify that adjacent crystal grains are in contact with each other at a grain boundary to form a continuous seed crystal layer, and respectfully traverse the rejection.

Claim 1 now clarifies that the seed crystal layer containing crystal grains is formed as a continuous seed crystal layer. Support for this feature can be found in Applicant's Specification on page 7, third paragraph, wherein the seed crystal layer 28 is formed to extend over the surface of the substrate 21. The nucleation sites 27 are contained within the seed crystal layer 28. Fine crystal grains 29 are defined within the seed crystal layer 28 for the respective nucleation sites 27. In one embodiment, the seed crystal layer 28 may be made of a pure Cr layer, for example. Accordingly, as shown in FIG. 2, for example, the seed crystal layer 28 is formed as a continuous seed crystal layer above the substrate 21.

In the outstanding Office Action on page 4, under item 8, the Examiner asserts that the intermediate layer 24 corresponds to the seed crystal layer of the present Application. However, the intermediate layer 24 is not formed as a continuous seed crystal layer, as shown in FIG. 2 of Chen. As discussed in Chen at col. 16, lines 21-31, one requirement for obtaining a superior recording layer is that the recording layer be formed on a proper structured nucleation layer. The structured nucleation layer affects the size and spacing of the magnetic grains formed thereon, and facilitates the uniform distribution of a segregant between the grains to provide the necessary isolation to minimize or prevent intergranular exchange coupling for reduced noise and improved magnetic performance. In order to accomplish this feature, Chen teaches that the structured nucleation layer should have a topology of discrete nucleation sites to which individual grains will adhere. Accordingly, Chen teaches that the intermediate layer 24 has a reasonably good lattice match to the alloy used for the magnetic recording layer.

Col. 17, lines 57-62 of Chen further teach that since the seed crystal layer 22 provides a very large number of nucleation sites for the chromium grains to nucleate and grow, statistically there results a number of Cr grains having a preferred orientation. Hence the Cr grains having a preferred orientation grow relatively close together. This, combined with the fact that these grains will grow at a fairly uniform rate, provides an ideal limitation on the tendency of the Cr grains to grow in diameter, and hence form a continuous layer.

FIG. 4 of Chen verifies the noncontinuous nature of the intermediate layer 24.

Col. 16, lines 44-46 of Chen further teach that the seed layer 22 consists of randomly oriented discrete grains 74, which serve as a template for Cr grains 76 to nucleate and grow. Accordingly, since Chen has a discontinuous intermediate layer, Applicant respectfully submits that Chen fails to disclose or suggest a continuous seed crystal layer, as now recited in amended claim 1. Since Matsunuma also fails to disclose or suggest this feature, any combination of these references is deficient of this feature. For this reason, withdrawal of the §103(a) rejection of claims 1, 4-6 and 19-21 is respectfully requested.

Claims 1 and 19-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Hikosaka (U.S. Patent No. 6,620,533). Applicant traverses the rejection for the reasons recited above with respect to the §103(a) rejection based on Chen in view of Matsunuma.

The deficiencies of Chen are noted above. Since Hikosaka also fails to disclose or suggest a seed crystal layer that is formed as a continuous seed crystal layer, any

combination of these references fails to disclose or suggest this feature. For this reason, withdrawal of the §103(a) rejection is respectfully requested.

Claims 1, 4, and 19-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Ranjan (U.S. Patent No. 5,631,094). Applicant traverses the rejection for the reasons recited above with respect to the §103(a) rejection based on Chen in view of Matsunuma.

The deficiencies of Chen are noted above. Ranjan is merely cited for teaching metallic islands including atoms of at least one metallic element and molecules of a compound selected from an oxide or a nitride. However, Ranjan also fails to disclose or suggest the seed crystal layer formed as a continuous layer. For this reason, any combination of Chen and Ranjan fail to disclose or suggest this feature. For this reason, withdrawal of the §103(a) rejection is respectfully requested.

For all of the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

If a Petition under 37 C.F.R. §1.136(a) for an extension of time for response is required to make the attached response timely, it is hereby petitioned under 37 C.F.R. §1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely. The Commissioner is hereby authorized to charge any additional fees which may be required to this Application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,

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